

REMARKS

Claims 1 through 33 were pending when last examined and stand rejected. Claims 1, 3 and 23 are being amended for greater clarity and to correct for a missing antecedent basis, but not to limit the scope of the claims. No new matter is being added. Accordingly, claims 1 through 33 are now pending. Reconsideration is respectfully requested.

Drawings

On page 2 of the Office Action, the Examiner objected to the drawings. The Examiner asserts that the drawings do not show the first controller and the first comparator of claims 2, 11, 13, 14, 19 and 20, the oscillating source of claim 10, and the output circuitry of claim 23.

Applicant respectfully points out that Fig. 4 illustrates an embodiment of each of these elements. Element 425 illustrates an example of a first controller. Element 410 illustrates an example of a first comparator. Switch 415 provides for coupling the first result of comparator 410 to output terminal 420. The previous logical state is at output terminal 420, until the first result reaches output terminal 420. Signal SSVTR (also illustrated in greater detail in Figs. 3a and 3b) illustrates an example of an oscillating source. Elements 415, 425 and 430 illustrate both the circuitry for maintaining and the circuitry for coupling.

Accordingly, Applicant submits that no drawing corrections or additions are necessary and withdrawal of the objection is respectfully solicited.

Claim Rejections under 35 USC § 112

On page 3 of the Office Action, the Examiner rejected claims 1-33 under 35 USC § 112 as being indefinite. Applicant respectfully traverses.

Regarding claims 1, 9, 11, 20 and 23, the Examiner is unsure what “known previous logical state” is and how it relates to the “oscillating signal” and the “incoming signal”. Regarding claim 2, the Examiner is unsure what the “output signal” is and how it relates to “generating a control signal based on the previous logical state”. Regarding

claim 23, the Examiner asserts that the term “circuitry for coupling to the output terminal of the comparator that is not coupled to the output terminal and... not transition” is unclear.

Applicant points to the embodiments of FIGS. 3A-B, 4 and 10, and the discussion beginning at page 12, line 4 of the instant specification, the labeling for which happens to be particularly supportive for clarification purposes. Additionally, in an effort to resolve the Examiner’s confusion, such embodiments will be reiterated in a more summary fashion, excluding details that are not presently relevant and re-ordering remaining details as might assist the Examiner’s understanding. It is respectfully submitted, however, that any such assistance provided herein for the benefit of the Examiner, who has an exceedingly short period of time to digest a wide diversity of inventions, would not have been required for one of ordinary skill in the art.

Beginning with FIG. 4-1 and the specification at page 12, lines 4-9, circuit 210 receives signals including an oscillating reference signal (SSVTR) and an incoming signal (S0 or SNx), as well as a second oscillating reference or “SSVTR-bar”. The circuit 210 example also provides an output signal (SN) at output terminal 420. Initially, each of SSVTR, SNx and SN are set to known values; oscillating reference SSVTR is set to VOL and incoming signal SNx is set to VOH, with output signal SN being set to a high output voltage. Page 12, lines 11-14. Examples of oscillating references are also shown in FIGS. 3A-B and 10.

Within circuit 210, comparator 410a compares the oscillating signal SSVTR and the incoming signal SNx (page 12, lines 5-7), while XOR 425a operates as a control that compares a signal corresponding to oscillating signal SSVTR (e.g., amplified to form signal VT of FIG. 4-2) against output signal SN, and XOR 425a thereby generates a control signal for controlling switch 415a. Thus, for example, SSVTR and VT are initially low, causing XOR 425 to drive switch 415a closed and causing the (high) comparator 410a output to reach output terminal 420. Page 12, lines 11-22.

Similarly, comparator 410b compares SSVTR-bar and SNx, while XOR 425b generates a control signal based on a second VT corresponding to SSVTR (FIG. 4-2) that, in this case, drives switch 415b open, preventing comparator 410b output from being output as an output signal of circuit 210. Page 12, line 18 - page 13, line 2.

When incoming signal SN_x is further received, the “known previous logical state” of the incoming signal is still provided as an output signal and as an input to XOR 425a (page 13, lines 3-18). Oscillating reference SSVTR and second oscillating reference SSVTR-bar further transition relative to one another as shown in FIGS 3A-3B.

Thus, continuing with the above example, if incoming signal SN_x does not transition, i.e., with respect to its known previous logical state that is also applied to XOR 425a, then XOR 425a switches off, causing switch 415a to open and preventing the output of comparator 410a from reaching output 420; conversely XOR 425b switches on, causing switch 415b to close and comparator 410b can drive output 420. (Thus, the output state continues to correspond with [the unchanged state of] the incoming signal).
Page 13, line 19 - page 14, line 3.

If instead SN_x does transition, i.e., with respect to its known previous logical state that is also applied to XOR 425a, then: XOR 425a is on, switch 415a is closed and comparator 410a output reaches output terminal 420; conversely, XOR 425b is off, switch 415b is open and comparator 410b output is prevented from reaching output terminal 420. (Thus, the output state again corresponds with the incoming signal.) Page 14, lines 4-13.

Accordingly, Applicant respectfully submits that the rejected claims, in both unamended and amended form, particularly point out and distinctly claim the subject matter of the recited embodiments, which claims are WELL supported by the examples and discussion of the specification and figures.

Regarding claim 23, the Examiner further asserts that the term “the comparator” lacks an antecedent basis.

Claim 23 is amended herein to correct the lack of an antecedent basis, thereby rendering the rejection moot.

Regarding claims 29 and [31], the Examiner asserts that it is unclear how a discontinuously varying signal can be an oscillating signal.

Applicant respectfully traverses. FIG. 10, for example, shows how an oscillating reference can be discontinuously varying and yet be an oscillating signal. In that figure,

for example, an otherwise continuous (here, a ramp) signal is clipped without thwarting operation of the depicted embodiment. Applicant also points out that various recitations claiming embodiment alternatives, including but not limited to that illustrated by FIG. 10, were discussed during a telephone interview. However, the current recitation was considered more appropriate at that time.

Therefore, withdrawal of the objection/rejection and early allowance of the rejected claims is respectfully solicited.

Double Patenting

The Examiner further rejected claims 1-27 with reference to U.S. Patent No. 6,160,423 under the judicially created doctrine of obviousness type double-patenting. Applicant respectfully traverses.

The Examiner further agreed during a prior above-noted telephone interview that the double-patenting rejection should have been and is now entered as merely provisional, pending allowance, such that no further response is appropriate at this time.

Therefore, withdrawal of the current rejection or the holding of such rejection in abeyance at this time is respectfully requested.

Claim Rejections - 35 U.S.C. § 102(e) over Arends

The Examiner further, on page 5 of the Office Action, rejected claims 1 and 23 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,463,211 to Arends et al. ("Arends"). Applicant respectfully traverses.

Regarding claims 1 and 23, the Examiner asserts that Arends figures 2a and 3g disclose a detector circuit comprising an oscillating reference © [sic], incoming signal (B, C), a comparator (5, 6, 8) and a controller (7). Applicant respectfully disagrees.

Arends FIG. 2a is a block diagram showing processing of a received input signal that may or may not be an oscillating one. As is discussed beginning at Arends, col. 5,

line 57, "When a bar code label... is read, an optical detector 1 [of FIG. 2a] detects light from the bars and spaces comprising the characters... generates an electrical input Vin". Thus, the processed in FIG. 1, by its arguably closest comparison to the rejected claims, is or corresponds (as an electrical representation) to a received signal and not an "oscillating reference". Arends also explains that "The amplitude of the input signal... generally has one level L1 for dark bars and a second level L2 for light spaces" (col. 5, line 66 - col. 6, line 1), which NON-oscillating signal is shown in FIG. 2b. Thus, not only is the signal not a reference and not an oscillating signal, but replacing the signal with an oscillating reference would render Arends inoperable due to a complete lack of any input. Further, Arends does not even suggest an oscillating reference and it is unclear whether Arends might be operable with even the FURTHER ADDITION to Arends of an oscillating reference.

Arends FIG. 3g is also a block diagram illustrating an alternative embodiment of the system of FIG. 2a, and fails to anticipate claims 1 and 11 of the instant Application for at least the same reasons as with FIG. 2a.

The Examiner might arguably point to the use of processed versions of the Arends input signal being input to the illustrated comparators. However, even assuming arguendo that the processed versions might somehow be considered as references, such signals at least are not "received" as presently claimed, are not oscillating. Nor do the teachings of Arends even remotely suggest that they might be.

Accordingly, withdrawal of the rejection and early allowance of the rejected claims is respectfully requested for at least the foregoing reasons.


In conclusion, Applicant respectfully requests withdrawal of the objections and rejections and early allowance of claims 1-33 for at least the foregoing reasons.

If the Examiner has any questions or needs any additional information, the Examiner is invited to telephone the undersigned attorney at (650) 843-8796. If for any reason an insufficient fee has been paid, please charge the insufficiency to Deposit Account No. 05-0150.

Date: April 3, 2003

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APR 09 2003
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